

PMA 2 INGRESS

TOOLS AND EQUIPMENT REQUIRED

Unstow, place in tool bag:

- APAS Hatch Tool (two)
- Alcohol Pads (for APAS hatch seal)
- Station Portable Fire Extinguisher (CO2 Bottle)
- O-rings for IMV Caps (two sets of two)
- D-Cell BATTs (sixteen)
- Air Sample Bottles (four)
- Desiccant/Shroud Assemblies (four)
- Spotlight
- Towel
- 4-inch Ratchet Wrench, 1/4" Drive
- TBD-inch Extension, 1/4" Drive
- 1/4" to 3/8" Adapter, 1/4" Drive
- 7/16" Deepwell Socket, 1/4" Drive
- 5/32" Hex Head Driver, 1/4" Drive
- Universal Joint, 3/8" Drive
- 4-inch Adjustable Wrench
- General Purpose Tape (2")
- Nylon Wire Tie Wraps
- Tie Wrap Cutting Tool
- Connector Pliers
- Short Flat Tip Screwdriver
- Velcro

Unstow:

- Shuttle/Station Air Duct Assembly
- PMA IMV Duct Extension
- Portable Fan Assemblies (four)
- ISS O2 Extension Segments (two)
- FGB Harmful Impurities Cartridge
- Empty "Return to Houston" Bag

SETUP QDMS FOR INGRESS CONTINGENCY SUPPORT

1. Retrieve ISS O2 Extension Segments (two).
Disconnect two QDMs from existing O2 lines.
Connect a QDM to one end of each of the ISS O2 Extension Segments.

C7 2. √LEH O2 SPLY 1,2 Vlv (two) - Op

MO32M LEH O2 7,8 Outlet (two) →|← Free-end of one QDM/ISS O2 Extension
Segment connects to each outlet
LEH O2 7,8 Vlv (two) → Op

3. Route both QDM/ISS O2 Extension Segments to Ext A/L.

SETUP EXTERNAL AIRLOCK FOR ODS & PMA INGRESS

4. Relocate Tool Bag, Shuttle/Station Air Duct Assembly, PMA IMV Duct Extension, and Portable Fan Assemblies, "Return to Houston" bag to Ext A/L.

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|-------|----|----------------------------------|----------------|
| MO13Q | 5. | cb Depress MN A(B) SYS 1(2) Vent | → Cl |
| | | ESS1BC(2CA) SYS 1(2) Vent ISOL | → Cl |
| | | √VEST DEP VLV SYS 1(2) VENT | - Cl (tb - Cl) |
| | | ISOL | → Cl (tb - Cl) |
| | | cb Depress MN A(B) SYS 1(2) Vent | → Op |
| | | ESS1BC(2CA) SYS 1(2) Vent ISOL | → Op |

NOTE

Expect possible dP/dt klaxon if vestibule requires repressurization.

6. EQUAL VLV (one) → Norm
 $\sqrt{\text{ODS Hatch } \Delta P} \leq 0.2 \text{ psid}$

INGRESS ODS VESTIBULE

7. Open ODS Hatch per decal.
EQUAL VLV (one) → Off, cap installed

CAUTION

Surfaces may be below freezing for a short time after initial ODS hatch opening. Avoid direct contact with vestibule surfaces until SHUTTLE VESTIBULE TEMP 1,2 (two) indicate > 40 degF (SM 211 DM STATUS ODS INTERFACE).

Insert ODS air duct extension into vestibule.

Wipe any condensate from vestibule volume using the towel.

8. $\sqrt{\text{MCC-H}}$: “Go for Node 1 Ingress.”

OPEN APAS HATCH

- APAS Hatch 9. APAS EQUAL VLV \rightarrow Op

SPEC 66 ENVIRONMENT

- AFD 10. When CABIN dP/dT < 0.01 (~5 minutes)

Open APAS Hatch:

Select 'DAAÎ xAA' (WORKING) torque setting on APAS Hatch Tool.
Insert tool in hatch socket.

Rotate tool 3-4 turns in direction of '↑ òËÐ' (Open) arrow until it clicks.

* If tool prematurely slips or does not engage: *

* Select 'ÀÃÄÉÉÍ Î Æ' (EMERGENCY) setting *

* on hatch tool. *

* Reattempt to open Hatch. *

Remove tool.
 Open Hatch.
 Tether tool on hatch handle.
 Secure hatch in open position using fixing device.

SHUTTLE/STATION AIR DUCT INSTALLATION

MO13Q 11. ARLK/TNL FAN A(B) → Off

EXT

A/L 12. Disconnect R&R with external A/L duct from halo cross air duct.
 Obtain Shuttle/Station Air Duct Assembly and connect to air inlet flex duct.

13. Secure Shuttle/Station Air Duct Assembly with TBD to TBD.

PMA 2 14. Remove band clamp and cap from PMA 2 hard duct.
 Stow cap on side of hard duct with pre-positioned velcro.

15. Connect free end of Shuttle/Station Air Duct Assembly to PMA 2 hard duct inlet with band clamp.
 Secure band clamp with over-center latch.

16. Remove Velcro strap from PMA 2 hard duct grille assembly (near duct connection just made).
 Verify grille cover open.

MO13Q ARLK/TNL FAN A(B) → On
 ✓Airflow at grille

PMA2/ 17. Remove V-band clamp and flange saver from starboard IMV flange.
 Node 1 Tmpy stow V-band in TBD for use later in this step.
 I/F Stow flange saver in bag (to be used in PMA1 Ingress).

Disconnect PMA 2 Flex duct from launch support.
 Tmpy stow V-band in TBD for use later in this step.

18. Connect PMA 2 Flex duct to PMA IMV extension duct with V-band clamp.
 Secure V-band clamp with over-center latch.
 Tighten V-band clamp with Ratchet and Deepwell Socket.

19. Route PMA IMV duct extension around top perimeter of Node 1/PMA 2 interface.

Connect other end of PMA/Node 1 duct extension to Node 1 starboard IMV flange with V-band clamp.

Secure V-band clamp with over-center latch.

Tighten V-band clamp with Ratchet and Deepwell Socket.

Secure PMA IMV duct extension around top perimeter of Node 1/PMA 2 interface with Velcro straps.

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|--------|-----|--------------------------------------|
| Node 1 | 20. | Remove launch hatch restraint pin. |
| Fwd | | Stow pin in "Return to Houston" bag. |
| Hatch | | |

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| PMA 2 | 21. | Close grille cover on PMA 2 hard duct. |
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